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COMMERCIAL MANUFACTURING COMPANY *v.*
FAIRBANK CANNING COMPANY.APPEAL FROM THE CIRCUIT COURT OF THE UNITED STATES FOR
THE NORTHERN DISTRICT OF ILLINOIS.

No. 253. Argued and submitted April 11, 1890. — Decided April 21, 1890.

Reissued letters patent No. 10,137, granted June 13, 1882, to the Commercial Manufacturing Company, Consolidated, for an improvement in treating animal fats, the original patent, No. 146,012, having been granted December 30, 1873, to Hippolyte Mège, as inventor, expired by the expiration in April, 1876, of a Bavarian patent, and in May, 1876, of an Austrian patent, granted to Mège for the same invention.

The question of the identity of the United States patent with the Bavarian and the Austrian patents, considered.

IN EQUITY. The case is stated in the opinion.

Mr. Charles K. Offield, for appellants, submitted on his brief.

Mr. B. F. Thurston and *Mr. T. D. Lincoln* also filed briefs for appellants.

Mr. Lysander Hill (with whom was *Mr. T. S. E. Dixon* on the brief) for appellee.

MR. JUSTICE BLATCHFORD delivered the opinion of the court.

This is a suit in equity, brought in the Circuit Court of the United States for the Northern District of Illinois, on the 11th of December, 1882, by the Commercial Manufacturing Company, Consolidated, a New York corporation, and The National Dairy Company, an Ohio corporation, against the Fairbank Canning Company, an Illinois corporation, for the infringement of reissued letters patent, No. 10,137, granted June 13, 1882, on an application filed May 20, 1882, to the Commercial Manufacturing Company, Consolidated, for an improvement in treating animal fats. The original patent, No. 146,012, was granted December 30, 1873, having been applied for December 13, 1873, to Hippolyte Mège, as in-

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ventor. It was assigned to the United States Dairy Company, and was reissued to that company as No. 8424, September 24, 1878. That reissue was then assigned to one Remsen, who assigned it to The Commercial Manufacturing Company, Consolidated, to which reissue No. 10,137 was granted. The National Dairy Company was the exclusive licensee for the State of Illinois, in which State the infringement was alleged to have taken place.

The answer set up, among other defences, that the United States patent had expired before the last reissue thereof was granted, by reason of the expiration of certain foreign patents granted to Mège for the same invention; that the last reissue was invalid; and that the defendant did not infringe.

So much of the specification of reissue No. 10,137 as is important in the present case is as follows: "Be it known that Hippolyte Mège, of Paris, France, now deceased, chemist manufacturer, did invent an improved means for transforming animal fat into butter, of which the following is a specification: This invention, which is the result of physiological investigations, consists of artificially producing the natural work which is performed by the cow when it reabsorbs its fat in order to transform the same into butter. The improved means he employed for this purpose are as follows:

"I. Neutralization of the ferments. In order to prevent the greasy substance which is settled in the tissue of the animals from taking the disagreeable taste of the fat, it is necessary that the ferments which produce this taste shall be completely neutralized. For this effect, as soon as possible after the death of the animal, he plunged the raw fats, called 'graisses en branches,' into water containing fifteen per cent of sea salt and one per cent of sulphite of soda. He began thus the transformation an hour, at least, after the immersion, and twelve hours, at most, afterward.

"II. Crushing. A complete crushing is necessary in order to obtain rapid work without alteration. For this purpose, when the substance is coarsely crushed, he let it fall from the cylinders under millstones, which completely bruise all the cells.

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"III. Concentrated digestion. The crushed fat falls into a vessel which is made of well-tinned iron or enamelled iron or baked clay. This vessel must be plunged in a water bath of which the temperature is raised at will. When the fat has descended in the vessel he melted it by means of an artificial digestion, so that the heat does not exceed 103° Fahrenheit, and thus no taste of fat is produced. For this purpose he threw into the wash-tub containing the artificial gastric juice about two litres per hundred kilograms of greasy substance. This gastric juice is made with the half of a stomach of a pig or sheep, well washed, and three litres of water containing thirty grams of biphosphate of lime. After a maceration during three hours he passed the substance through a fine sieve, and obtained the two litres which are necessary for a hundred kilograms. He slowly raised the temperature to about 103° F., so that the matter shall completely separate. This greasy matter must not have any taste of fat. It must, on the contrary, have the taste of molten butter. When the liquid does not present any more lumps he threw into the said liquid one kilogram of sea salt (reduced to powder) per hundred kilograms of greasy matter. He stirred during a quarter of an hour and let it set until obtaining perfect limpidness. This method of extraction has a considerable advantage over that which has been previously essayed. The separation is well made and the organized tissues which do deposit are not altered.

"IV. Crystallization in a mass. In order to separate the oleomargarine from the stearine, separate crystallizers or crystallizations at unequal temperatures have been already employed. He contrived for this purpose the following method, which produces a very perfect separation, and is as follows: He rendered the molten fat in a vessel which must be sufficient for containing it. This vessel is placed in a wash-tub of strong wood, which serves as a water bath. In this wash-tub he put water at the fixed temperature of 86° F., for the soft fats proceeding from the slaughter-house, and 98° for the harder fats, such as mutton fat. Afterward the wash-tubs are covered, and after a certain time, more or less long according

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to the fats, the stearine is deposited in the form of teats in the middle of the oleomargaric liquid.

"V. Separation by centrifugal force. In order to avoid the numerous inconveniences of the employment of the presses which have been hitherto used, he caused the mixture of stearine and oleomargarine to flow into a centrifugal machine called 'hydro-extractor.' The greasy liquid passes through the cloth and the stearine is collected. When all the liquid is passed he put the machine in motion, and the crystals of stearine are entirely exhausted without the auxiliary of the presses. However, during certain seasons there are animals which produce crystals of stearine soft enough for rendering necessary the stroke of a press as a last operation, but in this case this operation has little importance, because it is applied only to a fraction of the product. In all cases the oleomargarine is separated from the stearine when it is cold, and passed to the cylinder, constituting, especially if its yellow color has been raised, a greasy matter of very good taste, and which may replace the butter in the kitchen, where it is employed under the name of 'margarine;' but, if it is desired to transform it into more perfect butter, he employed the following means."

The claims in that reissue are as follows: "1. The improved material herein described, produced by treating animal fats so as to remove the tissues and other portions named, with or without the addition of substances to change the flavor, consistency, or color, as set forth. 2. The process herein described of treating animal fats in the production of oleomargarine."

The claims of reissue No. 5868 were six in number, and those of reissue No. 8424 were nine in number; while the claims of the original patent and of reissue No. 10,137 were identical in number and language.

After a replication to the answer, proofs were taken and the case was heard before Judges Gresham and Blodgett. The opinion of the court, delivered by the latter, is found in 27 Fed. Rep. 78; and, in accordance with its conclusions, a decree was entered, on the 22d of March, 1886, dismissing the bill. From that decree the plaintiffs have appealed.

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The ground for the dismissal was, that the Bavarian patent, which was granted April 8, 1873, expired April 8, 1876; that the Austrian patent, which was granted October 31, 1869, expired May 26, 1876; and that, therefore, reissue No. 10,137 was invalid, because the application on which it was granted was not made until May 20, 1882. Mége also took out a patent in France for his invention, July 15, 1869, for fifteen years. The defendant contends that the Bavarian and the Austrian patents were granted for the same invention as reissue No. 10,137, while the plaintiffs allege the contrary.

The text of the specification of the Bavarian patent is as follows:

"The crude fats and the crude tallow have, until the present time, been used in a very imperfect manner for the preparation of edible fat or soaps, or the fabrication of melted tallow for the preparation of fatty acids, by means of chemical modes of saponification or other purposes.

"The new modes of procedure described herein consist both of chemical and physiological processes; they are not intended to improve the former methods of fabrication, but, on the contrary, on account of their nature and better properties, furnish neutral and new products. They are especially intended to benefit the navy and the less wealthy classes, by furnishing excellent edible and preservable fats at a price considerably lower than that of present similar products,—for instance, butter and the finer grades of fats.

"The reduction in the price of butter will, in a large measure, contribute to the general wealth, for stock-raisers, instead of making butter, will feed their milk to calves and thereby get more stock, thus furnishing more cattle for slaughtering purposes and at a lower price. The new procedure is also of considerable importance, from a hygienic point of view, in doing away with the emanation of bad odors inevitable with the former chemical methods, and due to the excessive high temperature to which fats had been exposed. The new procedure depends upon the following conclusions of modern science: 1, That the malodorous, colored, acid and rancid ingredients are not originally contained in the crude

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fats as they occur in nature ; 2, That these harmful substances are developed by the activity of the organized tissues under the influence of fermentation, heat and chemical agents ; 3, That the fats of milk, termed butter, consist only of the immediate fat, which is altered first by a cellular tissue and then by the organized tissue of the udder. By utilizing these principles in industrial pursuits, or in domestic economy, there is obtained from the crude fats and the tallow—

“A. A pure fat, without the customary fatty smell and taste, which does not stick to the palate, and which resembles the fatty bodies most desired for eating purposes.

“B. Stearine for candles.

“C. As a residue, common tallow.

“D. This fat, really identical with the fat of butter, taken from its source before it has been changed in the milk gland, can be made into different kinds of butter, which, although prepared by an artificial process, is really butter, and differs only from the ordinary butter by keeping fresh for a much longer length of time.

“The means employed in the new preparation of these partly new, partly known, products constitute, in their details and in their entirety, the invention which we claim as our property. They are as follows:

“1. Washing and crushing. The crude fat is exposed to a jet of cold water between the conical cogs on two iron cylinders ; it is finely subdivided by the current of water and the pressure, and falls thence into a tank, where a current of cold water completes the washing.

“2. Artificial digestion. This fat, now freed from all soluble animal substances, is mixed with artificial gastric juice, (stomach of the pig or sheep in acidulated water,) to the extent of immersing it completely, or to 1000 kilo. of fat, 300 kilo. of water, one kilo. bicarbonate of sodium, and two stomachs (pig or sheep) are added. This mixture is then kept at the temperature of the animal body, (by means of steam-pipes, or otherwise,) until all the molten fat has been dissolved by the pepsin of the stomachs, and appears in a clear layer on the surface. It is allowed to settle, or it is decanted, and the

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process repeated, in order to extract all the fatty constituents, which now have lost the odor of animal fat, but have obtained a particular taste. The residue is tallow.

"3. Cooling. The fluid fat is poured into vessels which have an opening at the bottom and contain a layer of tepid water. They are covered, and when crystallization has occurred in consequence of cooling, the water is drawn off through the opening, the vessel is inverted and the cake is allowed to fall on a table.

"4. Pressure. This operation is intended to separate the hard constituent which makes the fat granular, congeal rapidly, and stick to the palate. The cooled fat is cut into slices about one inch thick, and put into a cloth between hot plates of a press. The portion which runs off is a mixture of margarine and oleine, resembling lard in composition, and of about the taste of fresh butter. It melts in the mouth like butter and does not stick to the palate like beef fat. The solid residue taken out of the cloth is good stearine, fit for making candles immediately.

"5. Uniformity and ductility. In order to remove the granular appearance of the margarine produced by congelation, and to give it the solid and uniform appearance usually possessed by fats, and in order, also, to remove any air which may have entered and might interfere with its preservation, without admitting air again, a vessel is filled with the fat, completely closed, and a churning or stirring apparatus in its interior is set into motion. The margarine is thus kept in motion and is then withdrawn from the vessel before cooling. It is now hard or even brittle, according to the temperature. It is rendered soft and ductile by rolling it between wooden cylinders. It is put into the form of plates or filled in tubs to be put in the market.

"6. Decolorization. The first fat is ordinarily of a light yellow color. If it is desired to remove this color without attacking the fat, the property which the fat possesses of remaining fluid for some time before cooling can be utilized. In this state an acid—for instance, muriatic acid—is added in sufficient quantity to remove the color, and it is then

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washed with tepid water until the last trace of acid has disappeared.

"This entire procedure, with or without pressure, can be applied to all crude fats.

"The white or faintly yellowish fat obtained by means of the described procedure is remarkably pure, and has a taste of almonds, hitherto not known of any animal fat. It is especially available for—

"A. Food, as a substitute for animal fats and lard.

"B. For the fabrication of fine toilet soaps.

"C. The manufacture of ordinary soaps to replace the olive oil.

"D. The lubrication of machinery, which is never attacked if the one hundredth part of calcined magnesia be added to the fat.

"E. The artificial production of butter.

"7. Transformation into butter. The pure fat which has undergone no change by heat or chemical agents is the same substance which the cow consumes in its organism in order to have it pass through the udder in the form of milk fat or butter. The fat is, therefore, but butter in its original form. This observation, and the observation that the milk gland of a cow contains a kind of pepsin possessing the property of making a milky emulsion of fat and water, are the basis of the industrial procedure of changing fat into butter, a physiological operation to be carried out as follows:

"At the temperature of the animal body, one part of fat is mixed with the same quantity of water, to which $\frac{1}{50}$ part (two per cent milk cheese, or milk without water, or cream in water) has been added, and with $\frac{1}{100}$ part of carbonate of sodium, and $\frac{1}{50}$ part of the tissue of the mammary gland. The mixture is kept at the temperature of the body and allowed to work. When the fat becomes milky it appears at first like a thick milky cream; later on it changes into butter, which is allowed to cool with the precautions explained in articles 3 and 5. The gland tissue of the mixture can also be replaced by artificial products, but with a less satisfactory result. Butter thus prepared keeps longer than milk butter, and does not, like the latter, acquire the pungent odor [due]

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to butyric acid, or it contains less caseine, insoluble in ether, and may contain less water or buttermilk, as may be desired, than butter obtained in the usual manner.

"Since the above-described modes of procedure, dependent on known and on unknown methods, are new in their industrial entirety and furnish new products, we claim them as our exclusive property for the entire term of the patents."

The text of the specification of the Austrian patent is as follows :

"My invention consists in the production of neutral fatty bodies of hitherto unknown natural appearance and excellent properties. By means of special treatment of the crude tallow, I obtain a pure fat devoid of smell and taste, which does not become rancid and which keeps for a long time. This substance I obtain through procedures partly known, partly new, the entirety of which constitutes the following methods :

"1. Perfect washing. This is done by crushing the fresh fat just taken from the animal between rollers under a spray of fresh water. The fat, subdivided finely by the action of the water and the pressure, falls into a tub, where the washing is completed by a current of water.

"2. Artificial digestion. This fat, from which all soluble animal substances have been removed, is mixed with artificial gastric juice, (maceration of a pig's stomach in acidulated water,) in sufficient quantity to immerse it, and the mixture is kept at the temperature of the animal body until the fat appears as a clear layer on the surface. The mixture is allowed to settle, and the sediment is subjected to another operation, in order to extract all fatty matter, which in this case has no longer the odor of animal fat, but the taste of finest fats.

"3. Pressure. This operation separates the hard constituent which makes the fat granular and causes it to congeal rapidly. This work, hitherto very difficult, is carried out on a commercial scale, in the following manner: The fluid clear fat is poured into vessels with an opening at the bottom and containing a layer of tepid water. They are covered, and when the cooling and the crystallization have taken place the

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water is drawn off through the opening, the vessel is inverted, and the mass allowed to fall upon a table. It is cut into cakes one to two centimeters thick. These are put into canvas and pressed between two warm plates. By this method there is obtained about sixty per cent of a fatty body resembling butter, and identical in composition with lard, but free from odor and of a perfectly pure taste. The solid portion remains in the canvas.

"4. Uniform solidity is given to this fatty body in the following manner: In order to make it hard and not granular, without admitting air, it is poured into a tinned-iron vessel filled thus completely. This well-closed vessel contains a stirring apparatus kept in motion from the outside. The vessel is, besides, kept surrounded by cold water, so that the fat which is being stirred, while cooling without the admission of air, becomes thick and uniform. It is then put into another vessel, where it becomes completely solid and hard.

"This hard fat is finally cut or sliced into thin slices, by some cutting machine similar to the mechanical arrangement used for cutting fine soaps, the blades being set to furnish thin slices. This work, giving the fat the proper ductility, can also be done by hand.

"5. Decolorization can be employed or omitted as desired. This fat is usually of a yellow tinge. This color can be removed easily and without damage, by utilizing the property of the fat of remaining fluid for some time in cooling. In this state it is mixed with enough fine acid — for instance, muriatic acid — to remove the color. It is then repeatedly washed with warm water until the last trace of the acid has been removed.

"This entire procedure, with or without pressure, can be employed in the case of any fresh fat just taken from the animal. By means of the same, I obtain partly solid partly soft, white or faintly yellowish, perfectly pure fatty bodies, which have a faint flavor of almonds. These new fatty bodies are applicable to various industrial purposes, according to their degree of consistency, especially to —

"1. The fabrication of toilet soap, particularly fine and beneficial to the skin.

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"2. The fabrication of ordinary soaps, to replace the olive oil and give a large yield.

"3. The lubrication of machinery, which is never attacked by this excellent lubricating material, especially when $\frac{1}{1000}$ part of calcined magnesia has been added.

"I claim, therefore, as my invention, the above-described mode of preparation of a wholly new fatty body. The peculiar points of importance of my procedure consist in washing, digesting, pressing, solidifying and decolorizing."

It is contended by the plaintiffs that they have shown, by the testimony of experts, that reissue No. 10,137 differs from the foreign patents in these particulars: (1) The neutralization of the ferments is entirely lacking in each foreign patent; (2) Complete crushing is provided for in the United States patent, so as to bruise all the fat cells, while the foreign patents do not provide for such complete crushing, but do provide for coarse crushing and washing, both of which actions render difficult, if not impossible, the production of the article which is the result of the United States patent, and involve a different process; (3) Each of the foreign patents makes vital the use of an artificial digestion, produced by a large proportion of gastric juice, while the United States patent practically dispenses with this gastric juice as an operative element in the process and product, and relies upon the slow increase of temperature to produce complete separation; (4) Each foreign patent directs the cooling of the product to solidification, so as to be sliced into pieces to be pressed, while the United States patent directs a crystallization at a uniform temperature, above 86°, leaving the oil fluid; and (5) Each foreign patent provides for the separation of oil from the stearine by pressing the cold-sliced or solidified cakes between hot or warm plates, while the United States patent separates the oil from the stearine with the product at the temperature of uniform crystallization, namely 86°. The contention is, that no step of the foreign patents is found in the United States patent, nor any equivalent therefor; and that the artificial digestion, the cooling to solidification, and the pressing between hot plates found in each of the foreign patents, is an absolute bar to the

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production of the article which is the result of the United States patent.

Professor Henry Morton, an expert witness for the plaintiffs, says: "There is, of course, a difference in the improved product described and claimed in the Mége patent, according as it is made with or without the addition of materials affecting its color, consistency and flavor. I will, therefore, refer to each of these conditions separately. When the improved product of Mége, without these additions referred to, is compared with ordinary dairy butter, we find it to be substantially identical therewith, as regards its main constituents and its general consistency and character. Both products then consist substantially of mixtures in nearly the same proportions, in either case, of stearine, margarine, and oleine, and both are unctuous solids varying in consistency, being quite solid near the melting point of ice, quite fluid at a temperature of about 90°, and more or less soft and plastic at intermediate temperatures. The Mége product, however, differs from dairy butter, in the first place, as to its composition, by reason of the presence in the dairy butter of several substances not found in the Mége product. Thus, the dairy butter contains about five per cent to six per cent of the peculiar fat known as butyrine; it also contains a smaller amount of caseine, some trace of albumen; also extremely minute quantities of caprilin, caproilin and caprylin. None of these substances would be present in the Mége product, as above referred to, which would therefore lack the peculiar flavor due to the presence of these products. The amount of water and of salt would also, as a rule, be greater in dairy butter than in the Mége product. There would also be a difference in consistency, inasmuch as the dairy butter would not constitute a homogeneous mass of fatty substance, but would be a solid emulsion of such fatty substance, in which the same existed as minute spheroids or particles of the said fatty substance, separated from each other by an aqueous fluid consisting of water, holding in solution salt and traces of albumen and caseine. When the Mége product has been converted into a more perfect butter, as he calls it, by

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the addition of certain substances, as indicated by him, it will then contain all or nearly all the materials found in dairy butter, though not in exactly the same proportions, all these distinctive matters being, as a rule, present in smaller proportions in the Mége product than in the dairy butter. As regards the water and salt, the relative proportions may vary either way in different samples, depending upon the amount of salt added and the amount of working to which the butter of the Mége product has been subjected. As regards consistency of the more perfect butter of the Mége patent and ordinary dairy butter, there will be a substantial identity, both being solid emulsions of fatty matter with an aqueous fluid. . . . As articles of food, the Mége product and ordinary dairy butter are only distinguishable by characteristics which are variations of degree. Thus the Mége product, in its simplest form, would have less flavor and a less agreeable consistency than good dairy butter, while, on the other hand, its freedom from disagreeable flavor would render it superior to a low or poor grade of dairy butter. When the flavoring materials were added, the Mége product would then be extremely difficult to distinguish from the best dairy butter, but, as compared with a very fine and highly flavored dairy butter, would be lacking in flavor. As regards wholesomeness, I do not think there would be any difference between the Mége product in either of its conditions and ordinary good dairy butter, though the Mége product would be better in this respect than a strong or rancid quality of dairy butter. The same remark applies to the nutritiousness of the materials compared, while as regards palatableness the Mége product would, I think, hold an intermediate place between the highest and the lowest grades of dairy butter, being better than the low grades and not quite equal to the highest in this respect."

On the question of the identity of the Bavarian patent with reissue No. 10,137, the opinion of the Circuit Court, after quoting the text of the specification of the Bavarian patent, says: "Here we have the directions of the Bavarian patent for producing the Mége product, consisting, first, of crushing

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between cogged cylinders and washing, by which it is 'finely subdivided.' The American patent says: 'A complete crushing is necessary under millstones.' So that it would seem there is only a difference in degree in the Bavarian and American processes, as to the crushing. The American process says the fat must be completely crushed so as to bruise all the cells. The Bavarian patent says it is to be finely subdivided by the current of water and by crushing between the conical cogs of iron cylinders. In both patents Mége uses the word 'crushing' as a title or heading for his directions. The directions for the artificial digestion are the same for the two patents, except that in the Bavarian he does not instruct specifically how to make the artificial gastric juice. He simply says it is 'the stomach of the pig or sheep in acidulated water;' but the proof in this case shows that the mode of making artificial gastric juice was well known in the arts before the date of Mége's invention, and he undoubtedly assumed that the person who would attempt to use the process covered by his patent would have sufficient physiological and chemical knowledge and skill to make artificial gastric juice. The American patent also states that the fat, while in the process of digestion, is to be kept at a temperature of 103° F., while the Bavarian patent says it is to be the temperature of the animal body; but the proof in this case shows that 103° F. is the temperature of the animal body, so it would seem there is no substantial difference between the processes of digestion described in the two patents. The third step in the Bavarian patent is entitled 'Cooling,' the process of which is pouring the clear liquid fat into vessels which have an opening at the bottom, and containing a layer of tepid water, where they are covered and remain until crystallization has occurred in consequence of the cooling. He does not give specific directions as to the temperature at which the fat is to be kept during the crystallizing process, but evidently leaves that to the skill of the operator, assuming that he will sufficiently understand by the use of the word 'crystallization' what the process must be. The next step after crystallization is the separation of the oleo and margarine from the crystallized stearine; and this in the Bavarian.

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patent is accomplished by pressure between the hot plates of a press. Inasmuch as the centrifugal machine, or the hydro-extractor and the press are analogous devices for accomplishing the same results,—that is, of expelling the liquid or fluid contents from the mass,—there is no essential difference between the Bavarian and American patents in this step of the process. The Bavarian patent is also silent as to the neutralization of the ferments or germs of decay; but it can hardly be possible that any person would enter upon the manipulation of animal fat without sufficient common knowledge and skill to know, without instruction by the specific terms of the patent, that, in order to produce sweet and pure oil or fat, the process of fermentation and decay must be prevented. So that, taking the Bavarian patent as a whole, there would seem to be such an identity in the processes described as to make them essentially the same. Probably because Mége assumed that whoever would attempt the transformation of crude fats under his process in Bavaria would possess more knowledge or experience in regard to the handling of fats than he assumed would be known in this country, as a matter of general knowledge, he deemed it necessary in his American patent to give more minute and specific directions in regard to some of the steps of the process than he did in his foreign patents. Yet we think there can be no doubt that he has substantially described the same process in both patents.”

In regard to the Austrian patent, the opinion of the Circuit Court says: “In the Austrian patent issued to Mége, October 31, 1869, he describes the first process under the title of ‘Perfect washing,’ which he says is done ‘by crushing the fresh fat just taken from the animal between rollers under a spray of fresh water.’ The second step, ‘Artificial digestion,’ consists in mixing the crushed fat ‘with artificial gastric juice, (maceration of a pig’s stomach in acidulated water,) in sufficient quantity to immerse it, and the mixture is kept at the temperature of the animal body until the fat appears as a clear layer on the surface.’ Here we have the same process as in the American patent, except that the directions for crushing do not include grinding or crushing under millstones,

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and he gives no recipe for making artificial gastric juice, except that of the maceration of a pig's stomach in acidulated water, which we must infer he assumed was a sufficient direction to enable an ordinarily intelligent person, skilled in the art of manipulating or handling fats, to make the gastric juice. The directions for crystallization require the clear fluid fat to be poured into a vessel with an opening at the bottom, and containing a layer of tepid water. The vessel is then covered, and, when the cooling and crystallization have taken place, the cooled mass is turned out, cut in slices, and placed in canvas bags and pressed between warm plates, by which method he says there is obtained about sixty per cent of a fatty body resembling butter, and identical in composition with lard, but free from odor and of a perfectly pure taste."

The opinion then proceeds: "The French and the English patents give substantially the same description for the process as is contained in the Austrian and Bavarian patents. All the steps of the American patent, with the exception of the neutralization of the ferments, are specifically called for and described, although, perhaps, not with all the minute directions which are found in the American patent. All the proofs agree that Mège was a man of inventive genius and high scientific acquirements, and it can hardly be possible that if, between the time he took out the French, English and Austrian patents, in 1869, and the Bavarian patent, in April, 1873, and the time when he applied for his American patent, in December, 1873, he had discovered any substantially new and material addition to the process covered by those foreign patents, he would not have specifically named and stated wherein the American differed from the foreign patents. As already said, it seems clear, from Mège's own statements, and those of his solicitors, that the purpose was to cover by the American patent what had been covered by his French patent of 1869, and we cannot believe that, if anything in addition to this foreign patent had been intended to be introduced into the American patent, it would not have been stated in some explicit terms; and there can be no doubt that the French, Austrian and Bavarian patents are substantially identical."

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In regard to the foreign patents, the opinion of the Circuit Court says: "The scientific experts called by the complainant, Professors Morton, Chandler and Wheeler, have testified that they do not think the invention described in the American patent is found in either of the foreign patents. Their reasons for such conclusion, briefly summarized, are: (1) That the crushing spoken of in the foreign patents is not so complete and thorough as that called for by the American patent, where the fat is to fall from cylinders under millstones, which shall completely bruise all the cells; (2) That in the American patent the digestion is to be accomplished with a less quantity of gastric juice than is called for by the foreign patents, as the foreign patents say the crushed fat is to be immersed in the artificial gastric juice; (3) That by the American patent the temperature may be raised above 103° F., 'so that the matter shall completely separate,' while the foreign patents limit the degree of heat to the temperature of the animal body; (4) That in the foreign patents the process of cooling is allowed to proceed to such a point that the mass can be cut in pieces or slices, while in the American patent the product is not allowed to cool so as to become rigid, but is retained at a temperature of about 86°.

"With all due respect to the opinions of these eminent chemists, we must say that the points of difference suggested by their testimony are purely and wholly differences in degree. The necessity of crushing is stated in all the patents, both American and foreign. The degree of crushing would obviously affect the quantity of oil extracted from the fat by the process of digestion, as the only object of the crushing is to release the fat from the tissues in which it is held in its natural condition. The necessity for thorough and minute comminution is one that would suggest itself from any operative's common knowledge. Any man who had intelligence enough to know the uses of his own teeth would know the necessity of the complete comminution of any article to be subjected to the process of digestion or the action of the gastric juice. It would hardly require a scientist to instruct an operative that the more finely a substance is comminuted

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the more direct and prompt would be the action of the gastric juice and the process of digestion.

"As to the differences in the process of digestion between the American and foreign patents, it would seem to be true that the measured quantity of gastric juice directed to be used in the American patent is less than that called for in the foreign patents, because he gives specific directions as to the number of litres of gastric juice for 100 kilogrammes of fat in the American patent, while in the foreign patent he says the fat must be immersed in the gastric juice; but the proof shows that the formula for the gastric juice in the American patent gives a more potent and effective product, and we presume Mége may, by his experience and practice under his patents, have ascertained, at the time he took the American patent, that the process of digestion could be accomplished with a less quantity of gastric juice than was described in his first patents; but this is only a difference in degree, and with a larger quantity of gastric juice and not so complete comminution, about the same result would probably be obtained as with complete and thorough crushing of all the fat cells and a smaller quantity of gastric juice, especially if made stronger or more potent; so that the difference in the American and foreign patents in that regard seems to us wholly immaterial and unsubstantial.

"As to the claim that these witnesses find in the American patent permission to raise the temperature above 103° F., we do not think it is well founded when the whole of Mége's specifications in his American patent are considered. Under the third head, 'Concentrated digestion,' Mége says, 'When the fat has descended in the vessel he melted it by means of artificial digestion, so that the heat does not exceed 103° F.' Further on, in the same paragraph, he says, 'He slowly raised the temperature to about 103° F., so that the matter shall completely separate.' Taking these two expressions together, it seems to us the first limits the second, and that the directions of the patent are specific not to raise the temperature above 103° F. Certainly the language, 'I slowly raise the temperature to about 103°,' does not authorize rais-

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ing the temperature above that point. When the distinction immediately before is that it must not exceed 103° F.; and when we consider this language of the specifications in the light of the testimony in the case, which shows that gastric juice is destroyed whenever its temperature is raised much above 103° F., we think there can be no doubt that the eminent scientist who devised this process intended to keep within the limits in which his gastric juice would be operative for the purposes of digestion.

"The last and final distinction, that the foreign patents contemplated a cooling of the mass below 86°, or until it had become stiff so that it could be handled and cut, before the pressure was applied for the purpose of separating the oleomargarine from the stearine, is a distinction, as it seems to us, without a difference. If the stearine had become crystallized in the mass, although it might at one time have been cooled below 86°, when it was sliced and placed between the warm plates in the press, the oleomargarine would again become liquid, and flow out under the action of the warm plates and the press, so as to secure the separation; and that such was the result is sufficiently established by the statements in the foreign patents, notably the Austrian and English, that about sixty per cent of a mixture of the margarine and oleine, of a composition identical with lard, but of superior flavor, was obtained by the pressure, and would seem to show, in the light of the proof in this case, that he obtained as large a product as is obtained by the process of the American patent.

"A fair test of the question as to whether the American patent is anticipated by the foreign patents, or is included in them, we think would be: Were a person in this country, after the issue of the present American patent, to commence the manufacture of oleomargarine by the precise process described in the Bavarian or Austrian patents, supposing that process had not been patented abroad, would the courts refuse an injunction to restrain the use of the process on the ground that it infringed that covered by the American patent? We can hardly deem it possible that any intelligent court would deny an injunction if applied for under such circumstances,

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and we think this fairly illustrates the relation of the foreign to the American patent."

The conclusion of the Circuit Court was that the plaintiffs' patent expired by the expiration of the Bavarian and Austrian patents.

We have carefully considered the arguments urged in the briefs of the counsel for the plaintiffs, in connection with the testimony of their experts, and are of opinion that the views of the Circuit Court, above quoted, are correct. Its decree is
Affirmed.

VICKSBURG, SHREVEPORT AND PACIFIC RAIL-
ROAD COMPANY v. SMITH.

ERROR TO THE CIRCUIT COURT OF THE UNITED STATES FOR THE
WESTERN DISTRICT OF LOUISIANA.

No. 276. Submitted April 11, 1890.—Decided April 21, 1890.

A suit was brought to recover from T. possession of a tract of land of about 35 acres, part of a larger tract of 186 acres, which the plaintiff claimed to own. The lessor of T. of the 35 acres was made defendant, and answered, claiming to own the land sued for and also the rest of the 186 acres. The plaintiff recovered a judgment for the 35 acres, their value not exceeding \$2000. The value of the 186 acres was about \$10,000. The lessor having brought the case to this court by a writ of error, it was dismissed, on the ground that the amount involved was not sufficient to give this court jurisdiction, because it did not exceed \$5000, exclusive of costs.

THE case is stated in the opinion

Mr. Edward Colston and *Mr. Frank P. Stubbs* for plaintiffs in error.

Mr. A. H. Leonard for defendants in error.

MR. JUSTICE BLATCHFORD delivered the opinion of the court.

This is an action at law, brought in the Circuit Court of the United States for the Western District of Louisiana, by